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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,433	09/10/2001	Tommi Virtanen	BER-019	9443
26717	7590	05/17/2005	EXAMINER	
RONALD CRAIG FISH, A LAW CORPORATION			MURPHY, RHONDA L	
PO BOX 820			ART UNIT	
LOS GATOS, CA 95032			PAPER NUMBER	
			2667	

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/955,433

Applicant(s)

VIRTANEN ET AL.

Examiner

Rhonda Murphy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 15, 18-23, 25, 26 and 28-38 is/are rejected.
- 7) ☒ Claim(s) 6, 8-14, 16, 17, 24 and 27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/22/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Additionally, "at least said at least one" shall be rephrased and "Fig. 3" at the end of the Abstract shall be deleted.

2. The disclosure is objected to because of the following informalities:

Typographical errors were made on page 4, line 5 and page 15, line 28 of the specification. Figure "2" shall be replaced with --1B-- and step "414" shall be replaced with --422--.

Appropriate correction is required.

Claim Objections

3. Claims 1, 2, 7, 20 and 21 are objected to because of the following informalities:

In claims 1 and 7, the term "in that" is duplicated and shall be deleted.

In claim 2, "at least said at least one captured data packet" shall be rephrased.

In claim 20, line 32 the term "packet" shall be replaced with --packets--.

In claim 21; line 6 "in that in processing" shall be rephrased. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-4, 21, 23, 29 and 30-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Nikander et al. (US 6,253,321).

Regarding claims 1 and 35, Nikander teaches the step of capturing data packets and processing captured data packets (col. 5, lines 19-28), characterized in that it further comprises the step of: accepting a captured data packet for processing (col. 4, lines 33-35) or declining a captured data packet from processing (col. 4, lines 33-35) based on the captured data packet and data packets captured prior to the captured data packet (col. 7, lines 51-67; Fig. 5).

Regarding claims 2 and 36, Nikander further teaches the steps of: when processing at least one captured data packet, determining a modification command affecting at least one captured data packet (col. 5, lines 25-37, 54-61), and maintaining a list of

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modification commands (col. 5, lines 56-61), the list enabling modification of captured data packets (col. 6, lines 44-48).

Regarding claim 3, Nikander further teaches the steps of: modifying captured data packets based on the list of modification commands (col. 6, lines 44-48), and releasing modified captured data packets (Fig. 5, block 506; col. 7, lines 55-57).

Regarding claim 4, Nikander further teaches discarding captured data packets that are declined from processing (Fig. 5, block 504).

Regarding claim 21, Nikander further teaches the step of: defining a plurality of first pieces of information, which are to be replaced in the captured data packets with a plurality of corresponding second pieces of information (col. 5, lines 29-40), and in that processing of captured data packets, the first pieces of information are searched for (col. 5, lines 56-61), and if a first piece of information is found, at least one modification command specifying at least the replacement of the first piece of information with a corresponding second piece of information is determined (col. 6, lines 44-48; col. 7, lines 5-9).

Regarding claim 23, Nikander teaches a modification command comprising a first identifier indicating the beginning of a first piece of information in the original captured data packet (Fig. 4; col. 7, lines 4-6), the first piece of information being subject to be replaced by a second piece of information (col. 7, lines 6-8), the length of the first piece of information (col. 7, lines 10-11), and the second piece of information (col. 7, lines 8-9).

Regarding claim 29, Nikander teaches a software entity for handling data packets, the data packets belonging to a set of data packets, the software entity comprising program code means for capturing data packets (Fig. 3, 304; col. 2, lines 18-2; col. 3, lines 55-64), characterized in that it further comprises: program code means for accepting a captured data packet for processing or declining a captured data packet from processing (col. 4, lines 33-35) based on the captured data packet and data packets captured prior to the captured data packet (col. 7, lines 51-67; Fig. 5).

Regarding claim 30, Nikander teaches program code means for maintaining a list of modification commands (col. 5, lines 56-61), the list enabling modification of captured data packets (col. 6, lines 44-48).

Regarding claim 31, Nikander teaches program code means for modifying captured data packets based on said list of modification commands (col. 6, lines 44-48), and program code means for releasing modified captured data packets (Fig. 5, block 506; col. 7, lines 55-57).

Regarding claim 32, Nikander teaches a software entity for processing data (col. 2, lines 18-20), the software entity being adapted to receive data (col. 3, lines 55-64) and software entity comprising program code means for processing received data (col. 3, lines 55-64), program code means for determining a modification command affecting at least received data, as a response to processing the data (col. 5, lines 56-61), and the software entity being adapted to output the modification command (col. 7, lines 55-57).

Regarding claim 33, Nikander teaches a computer program comprising program code for performing all the steps of claim 1 when the program is run on a computer (col. 2, lines 18-20; col. 4, lines 41-45).

Regarding claim 34, Nikander teaches a computer program product comprising program code means stored on a computer readable medium for performing the method of claim 1 when said program product is run on a computer (col. 2, lines 18-20).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5, 15, 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nikander et al. (US 6,253,321).

Regarding claim 5, Nikander teaches declining captured data packets.

Nikander fails to explicitly teach delaying the declined captured data packets.

Examiner takes official notice that it is known in the art for packets to be delayed when processing is declined. It would have been obvious to include delayed packets in Nikander's method, in order to temporarily hold the packets and process them at a later time.

Regarding claim 15, Nikander teaches the step of accepting a captured data packet for processing. Nikander fails to explicitly teach data packets forming a plurality of groups.

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Examiner takes official notice that it is known in the art that multiple packets of data form groups of data.

In view of this, it would have been obvious to one skilled in the art to modify Nikander's method by forming the captured data packets into groups for processing and further accepting the packets for processing in groups, in order to process multiple packets belonging to a particular group, during a certain period of time.

Regarding claim 25, Nikander teaches processing packets in fragments capable of being reassembled (col. 8, lines 37-42).

Nikander fails to explicitly teach processing the information fragments in the order specified by the sequence.

However, since packet fragments are capable of being reassembled, the packets must include a sequence number. Therefore, it would have been obvious to one skilled in the art to process fragments of data packets in an order specified by the sequence, for the purpose of handling packets in a particular order.

Regarding claim 28, Nikander teaches the same limitations described in the rejection of claim 25 and further teaches packet transmission using Transfer Control Protocol (TCP) (col. 6, lines 33-37).

Nikander fails to explicitly teach a sequence of octets of data according to TCP.

However, Examiner takes official notice that it is known in the art for a TCP fragment to transmit octets of data and have an associated sequence number.

In view of this, it would have been obvious to one skilled in the art to include a sequence of octets of data according to TCP, for the purpose of transmitting data in a specified order and provide reliable transmission means.

8. Claims 7 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nikander et al. in view of Xie et al. (US 6,772,347).

Regarding claim 7, Nikander teaches the steps of: declining a captured data packet from processing. Nikander fails to disclose declining the packet if the packet is already processed and releasing the packet.

However, Xie teaches declining a captured data packet that is already processed and releasing the captured data packet (col. 5, lines 60-67; col. 6, lines 1-5).

In view of this, it would have been obvious to one skilled in the art to modify Nikander's method by declining already processed packets and releasing the packet, in order to prevent the re-processing of already processed data packets, which will produce a more efficient method of handling packets.

Regarding claim 26, Nikander teaches processing information fragments. Nikander fails to explicitly teach processing each fragment of the sequence only once.

However, Xie teaches processing each fragment of the sequence only once (col. 5, lines 60-65).

In view of this, it would have been obvious to one skilled in the art to modify Nikander's method by processing each fragment of the sequence only once, in order to

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prevent the re-processing of already processed data packets, which will produce a more efficient method of handling packets.

9. Claims 18 – 20 and 37- 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nikander et al. in view of Adelman et al. (US 6,006,259).

Regarding claims 18 and 38, Nikander teaches data packets belonging to a set of data packets first handled in a first node (all elements of Fig. 3) and a list of modification commands maintained in the first node (Fig. 3; col. 5, lines 56-61).

Nikander fails to explicitly teach a cluster of network elements and the transfer of modification commands.

However, Adelman teaches a cluster of network elements and transmitting the list of modification commands from the first node to a second node of the cluster of network elements (col. 11, lines 34-36, 62-67).

In view of this, it would have been obvious to one skilled in the art to modify the method of Nikander by including a cluster of network elements and the transmission of commands, in order to enable other elements within a network to process the captured data packets.

Regarding claim 19, Nikander teaches handling a set of data packets. Nikander fails to teach the transmission of the list.

However, Adelman teaches transmitting the list and handling a set of data packets in the second node (col. 11, lines 62-67; Fig. 9, steps: 937 to 915 to 919).

In view of this, it would have been obvious to one skilled in the art to modify the method of Nikander by transmitting the list and enabling the second node to handle the set of data packets, in order to allow other nodes within a network to receive command lists and handle data packets.

Regarding claim 20, Nikander teaches the steps of: when beginning to handle said data packets, storing in said first node in a connection data structure, an entry representing the set of data packet (col. 3, lines 52-62).

Nikander fails to teach transmitting the entry from the first node to a second node.

However, Adelman teaches before handling the set of data packets in the second node, transmitting the entry from the first node to the second node (col. 11, lines 34-36).

In view of this, it would have been obvious to one skilled in the art to modify the method of Nikander by transmitting the entry from the first node to a second node, in order to allow other nodes within a network to handle the data packets.

Regarding claim 37, Nikander teaches the same limitations as described in the rejection of claim 1. Nikander fails to teach a network element cluster.

However, Adelman teaches a cluster of network elements (col. 2, lines 55-59).

In view of this, it would have been obvious to one skilled in the art to modify the method of Nikander by including a cluster of network elements in order to enable other elements within a network to process the captured data packets.

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10. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nikander et al. in view of G. Tsirtsis et al. "Network Address Translation – Protocol Translation (NAT-PT)".

Regarding claim 22, Nikander teaches modification commands for changing value of a field in a data packet. Nikander fails to explicitly teach changing the value in a header if the lengths of the information pieces are different.

However, Tsirtsis teaches changing value of at least one header field in a data packet if the length of the first piece of information is different from the length of the corresponding second piece of information and if the first piece of information is found in payload of data packet(s) (page 16, lines 30-39).

In view of this, it would have been obvious to one skilled in the art to modify the method of Nikander, by changing the value of a header field, so as to accurately indicate the translated information in the payload of the packet.

Allowable Subject Matter

11. Claims 6, 8-14, 16-17, 24 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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*Rana et al. (US 6,781,992) discloses a queue engine for reassembling and reordering data packets in a network.

*Wexler et al. (US 2003/0229809) discloses a transparent proxy server.

*Chapman et al. (US 6,246,684) discloses a method and apparatus for re-ordering data packets in a network environment.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rhonda Murphy
Examiner
Art Unit 2667

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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 5/13/05